Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

PROBLEMS FOR SOLUTION.

ALGEBRA.

200. Proposed by F. P. MATZ, Sc. D., Ph. D., Professor of Mathematics and Astronomy in Defiance College, Defiance, O.

No matter what value x be given, the *numerical* value of the expression $(x+2)/(2x^2+3x+6)$ can never exceed $\frac{1}{3}$.

201. Proposed by H. B. LEONARD, B. S., Graduate Student, The University of Chicago.

Solve by quadratics: $x+y+xy=75$; $x^2-y^2=315$.

GEOMETRY.

226. Proposed by W. J. GREENSTREET. A. M., Editor of The Mathematical Gazette, Stroud, England.

The triangles ABC, $A'B'C'$ are in plane perspective, and the corresponding sides BC, $B'C'$, ..., cut in P, Q, R, respectively. AA', ..., cut the line PQR in $P'Q'R'$, respectively. Show that (PP', QQ', RR') is an involution range.

227. Proposed by O. W. ANTHONY. Head of Mathematical Department, DeWitt Clinton High School, New York City.

Construct a parallelogram having given a side and the distances of its vertices from a given point.

228. Proposed by O.E. GLENN. A.M., Fellow in Mathematics, University of Pennsylvania, Philadelphia. Pa.

Given a point O without a circle S; two arbitrary lines through O cut S in the points A, A', and B, B', respectively. Prove, by pure geometry, that the four circles through OAR, OBR. $OA'R'$, $OB'R'$, respectively, intersect in points collinear with O; R and R' being points upon S arbitrarily chosen.

CALCULUS.

179. Proposed by B. F. FINKEL, A. M., M. Sc., 204 St. Marks Square, Philadelphia. Pa.

Discuss the integrals of the equation $x(1-x)w''+[1-(a+b+1)x]w'-abw=0$ in the vicinities $x=0$, and $x=1$; indicating the form for the latter vicinity when $a+b=1$. Also when $1-a-b$ is an integer l. [From Forsyth's *Linear Differential Equations*, Ex. 6, p. 103].

DIOPHANTINE ANALYSIS.

121. Proposed by L.E. DICKSON, Ph.D., Assisstant Professor in Mathematics, The University of Chicago.

Find a formula for the solutions of $x^2+y^2\equiv 1 \pmod{p}$ valid in all cases $p>2$.